American Atomic Strategy and the Hydrogen Bomb Decision

David Alan Rosenberg

On January 31, 1950, President Harry S. Truman announced that he had "directed the Atomic Energy Commission to continue its work on all forms of atomic weapons, including the so-called hydrogen or super-bomb." Truman's action, which ended three months of top secret study and debate, came after Secretary of State Dean Acheson, Secretary of Defense Louis Johnson, and Atomic Energy Commission (AEC) Chairman David E. Lilienthal, acting as a special committee of the National Security Council (NSC), recommended that steps be taken to determine whether a hydrogen bomb could be built. Twenty-four days later, Johnson, acting on the "most urgent" recommendation of the Joint Chiefs of Staff (JCS), requested "immediate implementation of all-out development of hydrogen bombs and means for their production and delivery."[1] The NSC special committee, now including Commissioner Henry D. Smyth in place of Lilienthal who had retired, responded on March 9 that the thermonuclear weapon program was "a matter of the highest urgency." They recommended that the president approve weapons' testing and ordnance and carrier development programs; instruct the AEC to continue to prepare for quantity production of thermonuclear weapons in order to avoid delays once feasibility was determined; and require the AEC and defense department to report as soon as possible on plans for production of materials needed for thermonuclear weapons. The president approved the committee's report on March 10.[2]

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[1] Harry S. Truman, *Memoirs by Harry S. Truman*, Vol. II: *Years of Trial and Hope* (Garden City, N.Y., 1956), 309–11; Louis Johnson to Harry S. Truman, Feb. 24, 1950, in Atomic Weapons-Thermonuclear folder, NSC Atomic File, President's Secretary's File (Harry S. Truman Library, Independence, Mo.).

[2] Report to the president by the Special Committee of the National Security Council on Development of Thermonuclear Weapons, March 9, 1950, Atomic Weapons-Thermonuclear folder, NSC Atomic File, President's Secretary's File.

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In analyzing this series of events, which constitute the "Hydrogen Bomb Decision," historians have focused primarily on the views and activities of scientists and civilian policy-makers who were the most visible actors in the drama,[3] and whose papers or memoirs are readily available for public scrutiny.[4] Newly declassified documents, however, reveal that the American military also played a significant role, and that its perspective on the hydrogen bomb question was very different from that of most civilians. Debates in civilian circles over development of thermonuclear weapons emerged largely in reaction to the Soviet atomic test of August 1949, which shattered the relative confidence the United States had enjoyed during four years of atomic weapons monopoly. Uniformed military planners analyzed the new weapon in the context of strategies for war with the Soviet Union, developed prior to the Soviet test. This essay will briefly describe the evolution of American plans for atomic war between 1945 and 1949 and show how these shaped the military's role in President Truman's H-bomb decision.[5] It will complement existing studies and bring into sharper focus a major turning point in the strategic arms competition between the United States and the Soviet Union.

As scholars have long been aware, the American military was deeply concerned about the power of Soviet conventional forces in the 1945–1950 period. The full dimensions of that anxiety can now be documented on the basis of newly declassified material. American military planners believed as early as December 1945 that rapid demobilization of its armed forces had left the United States able to defend only the Western Hemisphere, while carrying out occupation duties in Germany and Japan and small offensive operations overseas if necessary. The Soviet Union had only partially demobilized. Its army was judged capable of taking Western Europe (except for Great Britain), Turkey, Iran, the Persian Gulf, Manchuria, Korea, and North China in a mat-

[3] For major interpretations of the decision, see Warner R. Schilling, "The H-Bomb Decision: How to Decide Without Actually Choosing," *Political Science Quarterly*, LXXVI (March 1961), 24–46; Robert Gilpin, *American Scientists and Nuclear Weapons Policy* (Princeton, 1962), 64–111; Richard G. Hewlett and Francis Duncan, *A History of the United States Atomic Energy Commission*, Vol. II, *Atomic Shield, 1947–1952* (University Park, Pa., 1972), 362–409; Joyce Kolko and Gabriel Kolko, *The Limits of Power: The World and United States Foreign Policy, 1945–1954* (New York, 1972), 504–09; Paul Y. Hammond, "NSC-68: Prologue to Rearmament," in Warner R. Schilling, Paul Y. Hammond, and Glenn H. Snyder, *Strategy, Politics, and Defense Budgets* (New York, 1962), 267–78; Herbert F. York, *The Advisors: Oppenheimer, Teller, and the Superbomb* (San Francisco, 1976); and Stanley A. Blumberg and Gwinn Owens, *Energy and Conflict: The Life and Times of Edward Teller* (New York, 1976), 184–298.

[4] See Dean Acheson, *Present at the Creation: My Years in the State Department* (New York, 1969), 345–49; R. Gordon Arneson, "The H-Bomb Decision," *Foreign Service Journal*, 46 (May 1969), 27–29, and (June 1969), 24–27, 43; U.S. Atomic Energy Commission, *In the Matter of J. Robert Oppenheimer: Transcript of Hearing Before Personnel Security Board, Washington, D.C., April 12, 1954 through May 6, 1954* (Washington, 1954); David E. Lilienthal, *The Journals of David E. Lilienthal*, Vol. II: *The Atomic Energy Years, 1945–1950* (New York, 1964), 580–634; and Lewis L. Strauss, *Men and Decisions* (Garden City, N.Y., 1962), 208–30.

[5] Principal sources for this study were obtained through mandatory declassification review requests from 1975 to 1978 under Executive Order 11652 of 1972. They include planning papers of the United States Joint Chiefs of Staff (JCS), chief of staff of the air force, Office of the Chief of Naval Operations, and chief of staff of the army; selected files of the Office of the Secretary of Defense; and the NSC Atomic File, NSC Intelligence File, General File, and Subject File of the President's Secretary's File, and the Confidential File of the President's Official File at the Harry S. Truman Library.

ter of weeks or months. Although the United States had greater resources available for industrial mobilization than any other nation in the world, military planners were convinced that there would not be time enough to mobilize in the event of war.[6] It seemed unlikely that the Soviet Union would initiate an armed conflict until it had at least partially recovered from damage suffered in World War II. But the American military could not ignore the threat posed by Soviet capability regardless of Soviet intentions. From 1945 on, the realization that the United States was unprepared to counter Soviet conventional forces shaped military strategy.

By June 1946, the Joint War Plans Committee of the JCS had arrived at an interim plan for reducing the difference between United States and Soviet military capabilities. The plan, code-named "Pincher," identified the atomic bomb as a "distinct advantage" in the strategic air offensive the committee proposed as "the principal initial effort against the U.S.S.R." in case of war. Massive secrecy surrounded the bomb, however, and very few planners were privy to information regarding either its capability or the number of weapons that might be available for use.[7] The army air force plan, "Makefast," completed under "Pincher" in September 1946, did not include a nuclear weapons annex, although Deputy Chief of Air Staff for Research and Development, Major General Curtis E. LeMay, was asked to prepare an emergency plan outside of regular channels that was probably designed to serve this purpose.[8]

Military planners were initially uncertain how the atomic bomb could be used effectively to prevent the Soviet Union from taking Western Europe. The Russian transportation system, identified as "the most vital cog in the war machine of the U.S.S.R.," was too widespread to be vulnerable to attack. Bombing major industries such as steel, aircraft, and electric power would take too long to become effective. Only the Russian petroleum industry, vital to troop mobility, was considered possibly vulnerable to an air offensive, using either conventional or atomic weapons. As 67 percent of the Soviet petroleum industry was located in seventeen cities, planners quickly identified these as targets for atomic attack.[9]

[6] For assessments of United States and Soviet capabilities, see CCS 092 U.S.S.R. (3-27-45) files for 1945-1950, Papers of the United States Joint Chiefs of Staff, RG 218 (National Archives). See in particular JWPC 416/1 Revised, Jan. 8, 1946, section 3, and JCS 1924/2 (formerly JIC 435/12), Dec. 16, 1948, section 34, *ibid.* See also JCS 1888/2, April 1, 1950, in CCS 370 (5-25-48), section 2, *ibid.*; Michael S. Sherry, *Preparing for the Next War: American Plans for Postwar Defense, 1941-45* (New Haven, 1977), 198-219; and Samuel P. Huntington, *The Common Defense: Strategic Programs in National Politics* (New York, 1961), 33-47.

[7] JWPC 432/7, June 18, 1946, in CCS 381 U.S.S.R. (3-2-46), section 2, Papers of the United States Joint Chiefs of Staff. For an example of the great secrecy surrounding the atomic bomb, see Memorandum, George A. Lincoln to the Distribution List, with enclosure, July 10, 1946, ABC 471.6 (17 Aug., 1945), section 10, Papers of the Army Staff, Records of the Plans and Operations Division, RG 319 (National Archives).

[8] Air Plan for "Makefast," Oct. 10, 1946, PO 381 (10 September 1946), Papers of the Chief of Staff of the Air Force, RG 341 (National Archives); Oral History Interview with Curtis E. LeMay by John T. Bohn, March 9, 1971 (Office of Air Force History, Washington) 1-2.

[9] Air Plan for "Makefast," Oct. 10, 1946, PO 381 (10 September 1946), Papers of the Chief of Staff of the Air Force, 3-6, and attached Analysis of Target Systems, 1-7. For a list of targets, see JWPC 416/1, Revised, Jan. 8, 1946, CCS 092 U.S.S.R. (3-27-45), section 3, and JPS 789/1, April 13, 1946, CCS 381 U.S.S.R. (3-2-46), section 1, Papers of the United States Joint Chiefs of Staff.

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American military planners recognized that bombing cities would have considerable shock value, but most believed that this alone would not bring victory. As a June 1946 air staff study noted:

> It is assumed that if *sufficient* force were applied in a short enough period of time against the major cities of a modern nation, a morale collapse would end the war. This force has never been calculated and there is grave doubt that we could counter attack on such a target system with decisive effect even assuming [in the event that both sides had atomic bombs] we were not seriously crippled by the first blows of the enemy. Also a dictator nation might calculate that we could still be beaten even if we did destroy its cities.[10]

The question of how much force would be sufficient was crucial. The American nuclear weapons stockpile and delivery capability at this time was minimal. Although the number of bombs remains classified, General Carl Spaatz recalled that there were only about a dozen during most of his tour as army air forces commanding general and air force chief of staff from February 1946 to April 1948.[11] In addition, only twenty-seven B-29 bombers modified to carry the atomic bomb existed in January 1946, all in the 509th Bomb Group at Roswell Army Air Force Base in New Mexico. Only five more B-29s were available for atomic operations two years later.[12] No military bomb assembly team was ready until December 1947 to replace the civilian teams that had disbanded in 1946. This was at a time when all bombs in the stockpile were unassembled, and it took twenty-four men nearly two days to prepare one weapon for combat.[13]

The low level of nuclear readiness during 1946 and 1947 resulted from technical and administrative problems that plagued Major General Leslie R. Groves' Manhattan Engineer District (MED) from September 1945 on, as peacetime constraints of "efficiency and economy" were imposed. Production of uranium-235, which had fueled the Hiroshima gun-type weapon, leveled off after the war as uneconomical processing facilities at Oak Ridge, Tennessee, were replaced by a smaller number of more efficient plants. Production of plutonium, which had fueled the much more efficient Nagasaki implosion bomb, actually decreased, despite its higher priority. The three plutonium production reactors at Hanford, Washington, were experiencing severe

[10] Earl E. Partridge to secretary general of the Air Board, June 7, 1946, Hugh Knerr File, Box 276, Carl Spaatz Papers (Library of Congress).

[11] Noel Francis Parrish, "Behind the Sheltering Bomb: Military Indecision from Alamogordo to Korea" (doctoral dissertation, Rice University, 1968), 133–34, 145. Information in letters to the author from John A. Griffin, Oct. 15, 1975, and Edward B. Giller, Feb. 5, 1976, of the United States Energy Research and Development Administration, indicates that there were no more than twenty-nine weapons in the American nuclear stockpile in July 1947.

[12] Hoyt S. Vandenberg to Ira Eaker, Jan. 2, 1946, Exhibit 45, *Strategic Air Command History, 1946* (Albert F. Simpson Historical Research Center, Maxwell Air Force Base, Ala.); JCS 1745/5, Dec. 8, 1947, CCS 471.6 (8-15-45), section 8, Papers of the United States Joint Chiefs of Staff. In January 1948, the 509th Group was based at Kirtland Air Force Base near Albuquerque, N.M., and Los Alamos.

[13] Report to the president from the Atomic Energy Commission, Jan. 1–April 1, 1947, April 3, 1947, Atomic Energy-Reports folder, NSC Atomic File, President's Secretary's File; JCS 1745/5, Dec. 8, 1947, CCS 471.6 (8-15-45), section 8, Papers of the United States Joint Chiefs of Staff. Bomb assembly was described by retired Vice Admiral John T. Hayward in interviews, July 15, 1975 and June 4, 1976.

technical problems caused by sustained operation. In early 1946, the oldest reactor was shut down and the remaining two began functioning at reduced power to prevent their becoming inoperable. Plutonium production was at but a "fraction of its wartime rate" in January 1947 when the army yielded control of MED to the AEC.[14]

Growth of the atomic stockpile was further retarded by general demobilization of the Los Alamos Scientific Laboratory, which was responsible for final enrichment of fissionable material and shaping it into weapons' cores, manufacture of high explosive detonator assemblies, and research into advanced weapons designs. The small group of scientists and technicians who remained despite the laboratory's uncertain future were absorbed in providing technical advice and preparing two implosion bombs for testing on naval vessels at Bikini atoll in July 1946. Although these tests provided weapon effects data, they contributed little to the improvement of bomb technology. Proof-testing of the new Mark IV implosion mechanical assembly and new nuclear implosion cores, which made more efficient use of plutonium and U-235, was not approved until June 1947. Actual testing of the new weapons did not occur until spring 1948 in the "Sandstone" series at Eniwetok.[15] Thus, all weapons produced from 1946 until late 1948 were Mark III "Fat Man" plutonium implosion bombs, and were considered "laboratory weapon[s]."[16]

Overshadowing technical and administrative problems was a serious lack of high level policy direction. During 1945 and 1946, the president devoted little attention to atomic energy matters, beyond his efforts to establish the AEC and promote Bernard Baruch's plan for international control of atomic weapons by the United Nations. Truman was not even informed of the existing stockpile's size until April 1947, and then was shocked to discover that it was only a fraction as large as he had thought.[17] The military was slow to establish goals for nuclear production because the early target lists and intelligence estimates were tentative and the military role of the atomic bomb was not yet clear. In February 1947 the JCS finally informed the secretaries of war and navy that the supply of atomic weapons was "inadequate to meet the security requirements of the United States," and directed the Joint Strategic Survey Committee to "prepare long range estimates of total military requirements of fissionable material."[18] Eight months passed before the study was completed.

Despite delays in production and planning, the summer of 1947 proved to be the turning point in the military's thinking about the atomic bomb's value in warfare. On July 29, 1947, the JCS evaluation board on the Bikini tests of 1946

[14] Richard G. Hewlett and Oscar E. Anderson, Jr., *A History of the United States Atomic Energy Commission*, Vol. I, *The New World 1939–1946* (University Park, Pa., 1962), 624–33, 641–42; Hewlett and Duncan, *History of Atomic Energy Commission*, II, 39–40.

[15] Hewlett and Anderson, *History of Atomic Energy Commission*, I, 631–32; Hewlett and Duncan, *History of Atomic Energy Commission*, II, 31–32, 58–61, 132–41.

[16] K. D. Nichols to the JCS, Nov. 29, 1948, JCS 1745/18, Dec. 2, 1948, CCS 471.6 (8–15–45), section 13, Papers of the United States Joint Chiefs of Staff.

[17] Lilienthal, *Journals*, II, 165–66; Hewlett and Duncan, *History of Atomic Energy Commission*, II, 53–55.

[18] William D. Leahy to the secretaries of war and navy, Feb. 26, 1947, and JCS 1745/1, Feb. 25, 1947, CCS 471.6 (8–15–45), section 4, Papers of the United States Joint Chiefs of Staff.

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presented its detailed, final report to the assembled leadership of the nation's armed services. LeMay summarized the report's central conclusions, which reflected a significantly upgraded evaluation of the weapon's potential power:

> (1) Atomic bombs *in numbers conceded to be available in the foreseeable future* can nulify [*sic*] any nation's military effort and demolish its social and economic structures.
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> (2) In conjunction with other mass destruction weapons *it is possible to depopulate vast areas of the earth's surface, leaving only vestigial remnants of man's material works.*
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> (3) The atomic bomb emphasizes the requirement for the most effective means of delivery. *In being there must be the most effective atomic bomb striking force possible.*[19]

The Bikini board also concluded that because of the scarcity of fissionable material the bomb would have to be used as a "strategic" weapon against urban industrial targets and not—except in extraordinary situations—against naval vessels or troop concentrations.

The board recommended that in the absence of "acceptable guarantees of permanent peace" the United States should continue developing improved atomic weapons, initiate "continuing selection of atomic bomb targets," begin work on civil defense measures against possible attack, and develop an intelligence system capable of monitoring an enemy's progress toward nuclear readiness; and that Congress should redefine "aggressive acts" so as to prepare for the possibility that a preemptive strike by the United States might be necessary to defend against a nuclear armed enemy.[20] The JCS evaluation board report did not convince American military planners that use of the atomic bomb would be decisive in the event of war. But it did increase the military's confidence in the weapon's capability and, by making information about it more generally available, assured it a central role in future strategic planning.

In October 1947, the Joint Strategic Survey Committee reported back to the JCS on long-term requirements for nuclear weapons production. Based on its recommendations, the JCS informed the chairman of the AEC that "a military requirement exists for approximately 400 atomic bombs of destructive power equivalent to the Nagasaki type bomb."[21] Such a stockpile would be "satisfactory until such time as any possible enemy country possesses atomic weapons in quantity and an air force capable of launching a massive attack on the United States."[22] Dropped on approximately 100 urban targets, the stockpile might be adequate to implement the chilling concept of "killing a nation"

[19] LeMay to Carl Spaatz (ca. July 28, 1947), OPD 384.3 (17 August 1945), section 8, Papers of the Chief of Staff of the Air Force. See also JCS 1691/10, Dec. 29, 1947, CCS 471.6 (10-16-45), section 9, part 2, Papers of the United States Joint Chiefs of Staff.

[20] JCS 1805, Sept. 23, 1947, CCS 471.6 (10-16-45), section 9, part 1, Papers of the United States Joint Chiefs of Staff. Most of the board's recommendations were implemented, except for the redefinition of "aggressive acts" to prepare for a possible preemptive strike. The Bikini board's recommendations were dropped from consideration on January 9, 1950. See JCS 1805/7, June 15, 1948, and JCS 1805/18, Jan. 9, 1950, CCS 471.6 (10-16-45), section 9, parts 2 and 3, *ibid.*

[21] Leahy to chairman, Atomic Energy Commission, Oct. 29, 1947, CCS 471.6 (8-15-45), section 7, *ibid.*

[22] Decision on JCS 1745/7, Dec. 17, 1947, CCS 471.6 (8-15-45), section 8, *ibid.*

through total destruction of its urban industrial base, a concept that had emerged in the air force Directorate of Intelligence during the process of preparing these recommendations.[23] The JCS timetable for atomic production was ready by December. Although its interim goals are classified, it called for all 400 bombs to be ready by January 1, 1953.[24]

In late 1947 and early 1948, a series of international crises increased pressure on American military planners to develop a workable plan for atomic war. The country's reluctance to support partial mobilization of conventional forces, which the JCS thought necessary to confront the worsening international situation in the eastern Mediterranean, the coup in Czechoslovakia, and the developing crisis in Berlin, combined to create a sense of urgency in preparing for war.[25]

On May 19, 1948, the JCS approved a postwar Joint Emergency War Plan, "Halfmoon," to be circulated for planning purposes. "Halfmoon" called for destroying "the will of the U.S.S.R. to resist by a main offensive effort in Western Eurasia and a strategic defensive in the Far East." Although it envisioned maintenance of a substantial foothold in Western Europe and lines of communication through the Mediterranean, the keystone of the plan was "a powerful air offensive designed to exploit the destructive and psychological power of atomic weapons against the vital elements of the Soviet war making capacity."[26] The air force's "Harrow" plan became the basis for air-offensive planning under "Halfmoon"; it called for dropping fifty atomic bombs—apparently all that were available in the late spring of 1948—on target systems in twenty Soviet cities in order to cause "immediate paralysis of at least 50 percent of Soviet industry."[27]

President Truman, however, upon being briefed by JCS planners on "Halfmoon" on May 5, 1948, ordered the development of an alternate plan based

[23] See JCS 1745/15, July 27, 1948, CCS 471.6 (8-15-45), section 11, *ibid.*, for a description of the target criteria. Robert Frank Futrell describes the "killing a nation" concept. Robert Frank Futrell, *Ideas, Concepts, Doctrine: A History of Basic Thinking in the U.S. Air Force, 1907-1964* (2 vols., Maxwell Air Force Base, Ala., 1971), I, 218.

[24] For the timetables, see JCS 1745/5, Dec. 8, 1947, CCS 471.6 (8-15-45), section 8, Papers of the United States Joint Chiefs of Staff.

[25] See JCS 1819, Nov. 19, 1947, CCS 381 Eastern Mediterranean and Middle East Area (11-19-47), section 1, *ibid.*; JLPC 349/5, Dec. 23, 1947, in CCS 381 (12-17-43), section 2, *ibid.*; and war planning documents, CCS 381 U.S.S.R. (3-2-46), sections 8-15, *ibid.*, for indications of problems faced by the JCS. See also Walter Millis and E. Duffield, eds., *The Forrestal Diaries* (New York, 1951), 336-450.

[26] JCS 1844/4, Brief of War Plan "Halfmoon," May 6, 1948, and Decision on JCS 1844/4, May 19, 1948, CCS 381 U.S.S.R. (3-2-46), section 12, Papers of the United States Joint Chiefs of Staff.

[27] Comments on "Harrow," appended to Charles P. Winkle to chief, War Plans Division, March 20, 1950, OPD 337 (6 August 1948), section 2, Papers of the Chief of Staff of the Air Force. See George F. Lemmer, *The Air Force and the Concept of Deterrence* (Washington, 1963), 37, for "Harrow" bomb numbers and city numbers. Although the Division of Classification, United States Department of Energy, has refused to declassify exact figures on nuclear weapons cores in the stockpile, Edward B. Giller has released the number of high explosive non-nuclear detonator assemblies for fiscal years 1947-1950. Letter from Giller to the author, Feb. 5, 1976. There were fifty-three of these assemblies in the July 1948 stockpile. This fact, combined with statements in JCS 1823/5 on non-nuclear components and the fifty bombs specified in "Harrow" make a fifty-bomb stockpile in July 1948 a reasonable estimate. JCS 1823/5, July 30, 1948, CCS 471.6 (8-15-45), section 11, Papers of the United States Joint Chiefs of Staff. See also letters from Griffin to the author, Oct. 15, 1975 and Feb. 15, 1977.

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solely on conventional forces. Unlike the JCS, which by July 1947 was convinced that international control of atomic weapons would not be achieved, Truman thought the bomb might be outlawed by the time war came. Less anxious than the military about an imminent outbreak of hostilities, he believed that the American people would not tolerate the use of atomic weapons for "aggressive purposes."[28] As the Berlin crisis deepened during the summer of 1948, however, the alternate plan that the JCS had begun to develop was abandoned. On September 13, Truman reluctantly assured Secretary of Defense James Forrestal that "if it became necessary," he was prepared to use atomic weapons,[29] and three days later he endorsed NSC-30, an air force-originated document that discussed the military's need to plan for the use of atomic weapons in the event of war.[30]

Ironically, after rejecting "Halfmoon," Truman himself initiated a process that would finalize American dependence on the atomic air offensive. Concerned about spiraling inflation, he announced on May 13, 1948, that he was placing a $14.4 billion ceiling on the Fiscal Year 1950 defense budget. During the next eight months, despite military protests, he refused to raise the limit he had imposed. The JCS estimated that a budget of $21–23 billion, or even a compromise of $16.9 billion, would allow the United States to maintain adequate conventional forces to retain some foothold in Europe as well as to carry out naval operations in all or part of the Mediterranean in the event of war. They feared that the $14.4 billion budget would result in the total loss of Western Europe; conventional forces would have to be cut back so far, the JCS argued, that the only offensive operation the United States could undertake to meet an emergency would be an atomic air offensive from the British Isles and the Cairo-Suez area.[31] The president's continuing refusal to budget adequate conventional alternatives thus made the United States virtually dependent on the atomic bomb.

Although all the services resisted Truman's budget cutting, the forced reliance on atomic strategy was particularly disturbing to the navy. For three years after World War II, naval officers had focused on maintaining the navy's

[28] William D. Leahy Diary, May 5–6, 1948, cited in Robert H. Ferrell, *George C. Marshall* (New York, 1966), 246–47; JCS 1844/6, May 13, 1948, CCS 381 U.S.S.R. (3–2–46), section 15, Papers of the United States Joint Chiefs of Staff. Harry S. Truman's calm in the face of the Russian threat may be due in part to Central Intelligence Agency (CIA) reports he was receiving. See CIA Report ORE 22–48, "Possibility of Direct Soviet Military Action During 1948," April 2, 1948, ORE 1948 (Reports No. 21–29) folder, NSC Intelligence File, President's Secretary's File. For various aspects of the world crisis in 1948, see the many memoranda for the president from CIA Director R. H. Hillenkoetter, Central Intelligence Memorandums 1945–1948 folder, NSC Intelligence File, *ibid.*, and Folder 122, William D. Leahy Files, Papers of the United States Joint Chiefs of Staff. For JCS discussions on policy options in the event of a "continuing impasse" in the attempt to gain international atomic energy control, see JCS 1764 through JCS 1764/4, July 14, 1947 to Aug. 13, 1947, CCS 471.6 (8–15–45), section 5, *ibid.*

[29] Millis and Duffield, *The Forrestal Diaries*, 487.

[30] NSC-30, "United States Policy on Atomic Warfare," Department of State, *Foreign Relations of the United States: 1948*, Vol. I: *General; The United Nations* (Washington, 1976), 624–28.

[31] For the bitter debates on the 1950 budget, see Minutes of Meetings between the JCS and Secretary James Forrestal, Oct. 3, 4, and 5, 1948, CCS 370 (8–18–45), section 10, part 1, and Bulky Packages, Papers of the United States Joint Chiefs of Staff; JCS 1800/16, Nov. 17, 1948, and JCS 1800/18, Nov. 15, 1948, CCS 370 (8–18–45), section 11, *ibid.* See also Warner R. Schilling, "The Politics of National Defense: Fiscal 1950," Schilling, Hammond, and Snyder, *Strategy, Politics, and Defense Budgets*, 1–266.

forces and prerogatives against the onslaughts of unification, technological challenge, and the apparent dominance of land-oriented strategic concepts for future war. By summer 1948 it had become apparent that not only the navy's role, but its entire understanding of strategy and warfare, was being threatened: war between armed forces was being replaced by war against supporting civilian populations.[32] Following the 1948 budget cuts, Rear Admiral Daniel V. Gallery, the assistant chief of naval operations for guided missiles, summed up the navy's doubts about this emerging philosophy:

> . . . . 2) For a "civilized society" like the United States, the broad purpose of a war cannot be simply destruction and annihilation of the enemy. At best this could merely be a means towards the end of forcing him to cease resistance and comply with our wishes.
>
> 3) The above idea is elementary, but in my opinion many of our military planners are losing sight of it. They seem to feel that if we ever have another war, the *only* objective will be "Not to lose it" and so they have adopted the Douhet concept of flattening the enemy's cities from the air.
>
> 4) If our *only* objective in war is to avoid military defeat while the shooting is going on, then perhaps a Douhet war is the easiest way to accomplish the objective.
>
> 5) However, even this kind of war is not as simple as the prophets of the ten day atomic blitz seem to think. Some authorities estimate that the damage done by strategic bombing of Germany was equivalent to 500 Atomic Bombs. But Germany did not surrender until her armies were defeated. This damage is costing the U.S. huge sums of money now. In addition, levelling large cities has a tendency to alienate the affections of the inhabitants and does not create an atmosphere of international good will after the war.
>
> 6) A strategy based on the sole object of preventing defeat in war is an unworthy one for a country of our strength. It is a strategy of desperation and weakness. I believe we should abandon the idea of destroying enemy cities one after another until he gives up and find some better way of gaining our objective.[33]

By fall 1948 many air force planners had come to believe that the atomic air offensive would be adequate to achieve victory. LeMay, who assumed command of the Strategic Air Command (SAC) in October 1948, immediately set to work preparing a feasible strategic plan for atomic operations against the Soviet Union. His plan, SAC Emergency War Plan 1-49, called for SAC "to increase its capability to such an extent that it would be possible to deliver the entire stockpile of atomic bombs, if made available, in a single massive attack." When combined with JCS targeting requirements, as spelled out in war plan "Trojan," the SAC plan entailed strikes on seventy Soviet urban target areas with 133 atomic bombs within thirty days.[34] Primary objectives would

[32] See David A. Rosenberg, "The Search for Maturity in American Postwar Air Doctrine and Organization: The Navy Experience," *Air Power and Warfare: The Proceedings of the Eighth Military History Symposium, United States Air Force Academy, 18-20 October, 1978*, ed. Alfred F. Hurley and Robert C. Ehrhart (Washington, 1979).

[33] Daniel V. Gallery to the deputy chief of naval operations (air), Jan. 17, 1949, MLC-AEC folder, Box 8, Papers of Vice Admiral Ralph Ofstie (Operational Archives, Naval Historical Center, Washington). The term "Douhet war" refers to the kind of bombing campaign against enemy cities and populations espoused by Italian strategist Giulio Douhet.

[34] Thomas S. Power to chief of staff, U.S. Air Force, April 1, 1950, OPD 381 SAC (23 March 1949), TS, section 2, Papers of the Chief of Staff of the Air Force. For bomb numbers and targets, see JCS 1952/11, Feb. 10, 1950, Weapons Systems Evaluation Group Report 1, CCS 373

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[35] JCS 1952/1, Dec.
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[36] SAC Aircraft Statu
History, 1949, Vol. V
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[37] JCS 1823/6, Aug. 1
12, Papers of the Unite
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15, Papers of the United

[38] JCS 1823/11, Dec.

be urban industrial concentrations and government control centers; secondary targets would include the petroleum industry, transportation networks, and the electric power industry. In describing this offensive to the JCS, Air Force Chief of Staff Hoyt S. Vandenberg noted that successful execution "could well lead to Soviet capitulation and in any event would destroy their overall capability for offensive operations."[35]

Air force confidence in the proposed atomic air offensive grew in part out of service pride and necessities imposed by the 1950 budget ceiling, but it also reflected a substantial improvement in American nuclear readiness. By January 1949, SAC had more than 120 nuclear capable aircraft, including thirty B-29s and B-50s modified to receive air-to-air refueling from nineteen B-29s modified as aerial tankers. Six bomb assembly teams were in operation, and one more in training.[36] Nuclear production problems at Hanford had been alleviated, and two of the three nuclear cores tested in the "Sandstone" series had proven so efficient that they were placed in production, as was the new Mark IV bomb assembly. In August 1948, while the "Sandstone" tests were still being analyzed, the AEC informed the JCS that year-end goals for nuclear production could not be met. Shortly after analysis was completed in October, the AEC confidently predicted that, because the more efficient cores would require less fissionable material, interim goals could be met and the total of 400 bombs the JCS had requested would be available by January 1, 1951, two years ahead of schedule.[37]

With the AEC raising its estimates of United States production capability, and with the size of the nuclear stockpile more critical to the military than ever as a result of limitations on available conventional forces, the JCS decided to revise the December 1947 production schedule. Since atomic weapons production came under the AEC budget, it was not subject to Truman's defense-spending ceiling and could be expanded without necessitating cutbacks in other military programs. In January 1949 the Joint Chiefs informed the AEC that "it is now evident that the currently established military requirements for scheduled bomb production should be increased substantially and extended." Revised estimates would be forwarded as soon as studies then in progress were completed.[38]

The most significant of these studies had been requested by Secretary of Defense Forrestal on October 23 and 25, 1948. Forrestal, who had reservations

(10-23-48), section 6, Bulky Package, and JCS 1823/14, May 27, 1949, CCS 471.6 (8-15-45), section 15, Papers of the United States Joint Chiefs of Staff. See also Anthony Cave Brown, ed., *Dropshot: The United States Plan for War with the Soviet Union in 1957* (New York, 1978), 6.

[35] JCS 1952/1, Dec. 21, 1948, in CCS 373 (10-23-48), section 1, Papers of the United States Joint Chiefs of Staff. See also JCS 2057, Aug. 25, 1949, and JCS 2057/1, Nov. 4, 1949, in CCS 381 (12-1-47), section 1, *ibid.*

[36] SAC Aircraft Status and Projection, Jan. 18, 1949, Exhibit 194, *Strategic Air Command History, 1949*, Vol. VII: *Supporting Documents* (Simpson Historical Research Center); JCS 1745/18, Dec. 2, 1948, CCS 471.6 (8-15-45), section 13, Papers of the United States Joint Chiefs of Staff.

[37] JCS 1823/6, Aug. 18, 1948 and JCS 1823/7, Oct. 21, 1948, in CCS 471.6 (8-15-45), section 12, Papers of the United States Joint Chiefs of Staff; Hewlett and Duncan, *History of Atomic Energy Commission*, II, 164-65, 178; JCS 1823/14, May 27, 1949, CCS 471.6 (8-15-45), section 15, Papers of the United States Joint Chiefs of Staff.

[38] JCS 1823/11, Dec. 28, 1948, CCS 471.6 (8-15-45), section 13A, *ibid.*

about the planned atomic air offensive, asked for a detailed analysis of the ability of the air force to deliver the bombs to their assigned targets and an estimate of what the impact would be if all the bombs were delivered.[39] Interservice arguments over the accuracy of intelligence data on Soviet air defenses delayed initiation of the first study. In April 1949 the JCS referred the project to the newly formed Weapons Systems Evaluation Group (WSEG), a joint operations analysis office under the Research and Development Board and the JCS. Because of the many technical questions involved, the study was not completed until January 1950.[40]

The JCS assigned the second study to a joint, ad hoc committee of two officers each from the army, navy, and air force, headed by the senior air force officer, Lieutenant General Hubert R. Harmon. This group, known as the Harmon committee, analyzed the possible effects of an atomic offensive through May 1949. After intensive study of target selection procedures and intelligence; atomic weapons effects data; the nature of Soviet cities, industry, and armed forces; and possible psychological effects of an air offensive on the Soviet economy, citizenry, and military, it presented a unanimous report to the JCS on May 12.[41]

The fact that the Harmon report was unanimous, despite ongoing navy-air force battles over strategy and budgets, argues strongly that it was not a partisan document. Thorough, carefully considered, and based on the best available information, it was one of the major strategic analyses of the early Cold War. No comparable study was undertaken until 1953.[42]

On one level the Harmon report appeared to confirm navy doubts about the proposed atomic air offensive. It concluded that the planned attack against seventy Soviet cities would not "per se, bring about capitulation, destroy the roots of Communism, or critically weaken the power of Soviet leadership to dominate the people." Instead, "for the majority of the Soviet people, atomic bombing would validate Soviet propaganda against foreign powers, stimulate resentment against the United States, unify the people, and increase their will to fight." In addition, "the capability of Soviet armed forces to advance rapidly into selected areas of Western Europe, the Middle East, and the Far East would not be seriously impaired," although Soviet capability thereafter would be limited by severe fuel and lubricant shortages, expected to result from the bombing of the petroleum-refining industry.

The report projected a 30 to 40 percent reduction of Soviet industrial capacity as a result of the combined physical damage, personnel casualties, and other cumulative effects of an air offensive. This compared to the air force's projection of 50 percent in "Harrow" and subsequent plans. The Harmon committee concluded that "this loss would not be permanent and

[39] JCS 1952, Oct. 25, 1948, and JCS 1953, Oct. 25, 1948, CCS 373 (10-23-48), section 1, *ibid.*

[40] See JCS 1952/2 through JCS 1952/11 and other memoranda, CCS 373 (10-23-48), sections 1, 2, 5, 6, and Bulky Package, *ibid.*

[41] Minutes of Harmon committee meetings 1 through 25, Jan. 24 to March 17, 1949, CCS 373 (10-23-48), section 2, *ibid.*; Annex C to Enclosure B of JCS 1953/1, May 12, 1949, CCS 373 (10-23-48), Bulky Package, *ibid.*

[42] A follow-up study by the Weapons Systems Evaluation Group was contemplated by the JCS, but there is no record of its being undertaken before 1952–1953. See correspondence, CCS 373 (10-23-48), section 7, *ibid.*

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[43] JCS 1953/1, May 12
[44] *Ibid.*
[45] JCS 1953/4, July 8,
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could either be alleviated by Soviet recuperative action or augmented depending upon the weighted effectiveness of follow-up attacks." The report estimated that the initial atomic offensive might kill 2.7 million people, cause 4 million additional casualties, and make life "vastly complicated" for the remaining 28 million residents of the seventy target cities. It warned that "atomic bombing would open the field and set the pattern for all adversaries to use any weapons of mass destruction and will result in maximum retaliatory measures within Soviet capability." It would thus "produce certain psychological and retaliatory reactions detrimental to the achievement of Allied war objectives and its destructive effects will complicate post-hostilities problems."[43]

Despite this conclusion, the Harmon committee did not reject reliance on an atomic air offensive. The Fiscal Year 1951 defense budget ceiling of $13 billion was even lower than that set for 1950, making development of conventional alternatives more difficult than ever. In a war with the Soviet Union, the Harmon report pointed out, the atomic bomb "would constitute the only means of rapidly inflicting shock and serious damage to vital elements of the Soviet war-making capacity." It would weaken Soviet resistance to conventional operations and thus reduce American casualties.* The final paragraph of the report stressed this point. Despite the limitations and drawbacks of an atomic air offensive, the Harmon committee concluded:

> From the standpoint of our national security, the advantages of its early use would be transcending. Every reasonable effort should be devoted to providing the means to be prepared for prompt and effective delivery of the maximum numbers of atomic bombs to appropriate target systems.[44]

The Harmon report thus incorporated two strains of conflicting thought without resolving the tension between them. It pointed out that bombing urban industrial centers would not bring victory and could have side effects detrimental to the American war effort. But it accepted the fact that no other alternative was available, and implied that if an atomic offensive could be mounted quickly, on a large enough scale, and with adequate conventional and propaganda support, its military impact might offset its negative effects.

The JCS reacted to the report with concern. Air Force Chief of Staff Vandenberg disliked the report's pessimistic tone and pressed for major revisions in the conclusion. In particular, he wanted the analysis of the bombs' probable impact declared "tentative" and certain sections relating to expected negative side effects omitted entirely. Vandenberg's proposals were defeated because of an impassioned defense of the report by Chief of Naval Operations Admiral Louis E. Denfeld, but the JCS approved a revised covering letter by Vandenberg that reflected the air force's reservations. The report was then sent to Secretary of Defense Johnson on July 28, 1949.[45]

Most strategic planners were generally in accord with the air force position. Some, like LeMay, maintained that atomic attacks on the Soviet urban-

[43] JCS 1953/1, May 12, 1949, CCS 373 (10-23-48), Bulky Package, *ibid.*

[44] *Ibid.*

[45] JCS 1953/4, July 8, 1949, JCS 1953/5, July 19, 1949, and Memorandum, Vandenberg to the JCS, July 23, 1949, in CCS 373 (10-23-48), sections 2, 3, and Bulky Package, respectively, Papers of the United States Joint Chiefs of Staff.

industrial base alone could be decisive.[46] Others, especially those outside the air force, emphasized conventional support operations, but believed the basic concept of the atomic air offensive had been vindicated by the Harmon report.[47] A small group of naval officers, including Gallery, Ralph Ofstie, and Arleigh Burke, believed, however, that the Harmon committee's conclusion had discredited the concept of targeting Soviet cities for atomic attack. They proposed as an alternative that atomic weapons be used primarily against tactical military targets, such as armies, airfields, oil supplies, and submarine pens, which would have to be destroyed to prevent the Soviet Union from taking Western Europe. They argued that scarce budget funds should be spent on conventional tactical air forces and the rebuilding of Western European armies, rather than on expanding capability for an atomic air offensive.[48]

Evaluation of targets that could be attacked to retard Soviet advances had already begun in response to the signing of the North Atlantic Treaty, which formally committed the United States to defense of Western Europe, on April 4, 1949. Tactical nuclear planning, however, was restricted by the same forces that had shaped strategic nuclear planning: budgets and force levels, weapons numbers and design, and interservice politics and doctrine. Through the winter of 1949–1950, the nuclear stockpile was too small for use against nonfixed targets to be "seriously considered."[49] Although revision of an air offensive target list was begun in July 1949, and SAC was tasked by the JCS in December with "retardation of Soviet advances in Western Eurasia," targeting continued to focus on "vital elements of the Soviet war-making capacity," in line with established air force doctrine, and additional petroleum industry facilities were assigned only as specific retardation targets.[50] The army, more concerned with battlefield objectives, began to push for development of specific tactical nuclear forces in spring 1950; but it was not until 1952 that either bombs or air units were tentatively allocated to defense of Western Europe.[51] That an effective retardation system had not been developed by this

[46] Futrell, *Ideas, Concepts, Doctrine*, I, 278, 390.

[47] For example, see Memoranda, J. D. Price to chief of naval operations, Serial 00058P50, April 22, 1949; A. D. Struble to chief of naval operations, Serial 000234P30, May 27, 1949; C. T. Durgin to Op-30, Serial 00093P50, June 27, 1949; and M. B. Gardner to Op-05, Serial 00091P03, July 7, 1949, A16-3 Warfare Operations, 1949 folder, Op-30, Strategic Plans Division Papers (Operational Archives, Naval Historical Center).

[48] Ralph Ofstie, Views on Question 7 of the Agenda of the House Armed Services Investigation on Matters Pertaining to the B-36 Bomber, Aug. 20, 1949, B-9 Agenda Manual folder, section III, Op-23, Papers of the Organizational Research and Policy Division (Operational Archives, Naval Historical Center); Arleigh Burke to W. F. Boone, March 24, 1949, A1/1-1, Chronology folder, section II, *ibid.* See also Rosenberg, "The Search for Maturity."

[49] JCS 1823/14, May 27, 1949, CCS 471.6 (8-15-45), section 15, Papers of the United States Joint Chiefs of Staff.

[50] C. D. Glover to director, Plans and Operations Branch, United States Air Force, July 11, 1949, OPD Special File Halfmoon, section 10, Papers of the Chief of Staff of the Air Force. For assignment of retardation to SAC, see JCS 1844/46, War Plan "Offtackle," Nov. 8, 1949, and Decision on JCS 1844/46, Dec. 8, 1949, CCS 381 U.S.S.R. (3-2-46), section 41, Papers of the United States Joint Chiefs of Staff. For retardation targets see JCS 2056/3, Nov. 23, 1949, CCS 373.11 (12-14-48), section 1, *ibid.*

[51] JCS 2056/4, Jan. 19, 1950, CCS 373.11 (12-14-48), section 1, Papers of the United States Joint Chiefs of Staff; Summary of Findings and Report to Secretary of the Army, April 19, 1950, appended to Memorandum, T. H. Landon for K. B. Wolfe, H. A. Craig, E. W. Rawlings, G. P.

time was indicated by an army study of May 1952, which concluded that an air offensive against industrial targets in the Soviet Union would still not prevent the Red Army from prosecuting a successful campaign in Western Europe.[52]

The Harmon committee's work clearly encouraged efforts to find tactical uses for atomic weapons, but had its most important impact at an even more basic level. In January 1949 the JCS had promised to send the AEC a revised estimate of nuclear production requirements as soon as certain studies, including the Harmon report, were completed. Harmon committee member Rear Admiral Tom B. Hill served on the three-man, ad hoc committee that prepared the estimate. Although production goals set by the committee are classified, its final report of May 16, 1949, called for substantial expansion of the nuclear stockpile in order to permit conduct of

> the air offensive against Soviet industrial potential; a counter offensive against anticipated Soviet atomic forces during the period [through January 1, 1956] under consideration; limited atomic operations against offensive Soviet Armed Forces and their lines of communication, as a direct contribution to the defense of the signatory nations of the North Atlantic Pact;

and provide as well for

> a small general reserve; and an equally small post-hostilities stockpile for the purpose of guaranteeing the peace by serving as a deterrent to aggression.

The committee believed the new goals could be met by "optimum exploitation of ore supplies available in the United States and by an appropriate amount of additional construction" of production facilities.[53]

William Webster, civilian chairman of the Military Liaison Committee (MLC), communicated the new production schedule in general terms to the AEC on May 26. The next day, the JCS received the ad hoc committee's report, and on June 14 it approved transmission of the details to the AEC. The AEC considered the "appropriate . . . additional construction" to be so substantial that it would require approval by the president.[54]

By spring 1949 a number of factors had combined to convince President Truman that the atomic bomb would be the centerpiece of future American strategic planning. The NSC had approved, in November 1948, a national policy of deterrence that required an emphasis on American possession of the atomic bomb.[55] Western European leaders, particularly Winston Churchill, were stressing the need to threaten atomic retaliation to deter Soviet military action.[56] Truman had at last conceded to his advisers that international

Saville, and R. E. Nugent, Jan. 30, 1951, OPD 381 (13 April 1950), Papers of the Chief of Staff of the Air Force, Tactical atomic air capability is allocated for NATO missions in JCS 2220/4, Jan. 31, 1952, CCS 092 Western Europe (3-12-48), section 132, Papers of the United States Joint Chiefs of Staff; and JCS 1906/39, May 26, 1952, CCS 381 (2-8-43), section 21, *ibid.*

[52] JCS 1953/11, May 28, 1952, CCS 373 (10-23-48), section 7, *ibid.*

[53] JCS 1823/14, May 27, 1949, CCS 471.6 (8-15-45), section 15, *ibid.*

[54] Hewlett and Duncan, *History of Atomic Energy Commission*, II, 182; Johnson to the president, Aug. 5, 1949, in Military/Department of Defense (formerly National Military Establishment) folder, Subject File, President's Secretary's File.

[55] NSC 20/4, "Note by the Executive Secretary on U.S. Objectives with Respect to the USSR to Counter Soviet Threats to U.S. Security," Nov. 23, 1948, Department of State, *Foreign Relations: 1948*, Vol. I, 662-69.

[56] *New York Times*, April 1, 1949, pp. 1, 11.

control of atomic energy was impossible in the foreseeable future. On July 14, 1949, he told a top secret meeting on atomic policy: "I am of the opinion we'll never obtain international control. Since we can't obtain international control we must be strongest in atomic weapons."[57]

Truman's interest in military planning emerged more slowly than might have been expected. On April 5, 1949, Frank Pace, Jr., director of the Bureau of the Budget, sent the president a memo inquiring whether augmented bomber procurement, the anticipated JCS request for increased nuclear weapons production, and plans for striking seventy Soviet cities with atomic bombs might not be committing the president, without his consent, to unrestricted atomic warfare if hostilities were to occur.[58] Truman did not respond directly; the next day, however, he publicly stated for the first time since 1945 that, if forced to, he would use the atomic bomb again. During a staff meeting on April 8, he directed several questions regarding current war planning to his air force aide, Brigadier General Robert B. Landry. These questions did not address the major point of the Pace memo—that nuclear strategy was evolving piecemeal in response to technical considerations and interservice rivalries. Instead, he wanted to know if the air force's emphasis on the strategic bomber might not be comparable to the navy's alleged overdependence on the battleship during the interwar period. Landry responded by explaining air force philosophy and arranging for the air force high command to brief Truman on SAC's emergency war plans on April 20, 1949.[59]

The day after this briefing, Truman asked his new defense secretary, Johnson, for the two studies of the proposed atomic air offensive that Forrestal had initiated in October 1948. His request was prompted by naval aide Rear Admiral Robert L. Dennison, who feared the president might come too much under the influence of air force thinking unless he were exposed to alternatives.[60] Johnson responded on April 27 that he would ask the JCS to expedite the studies, but that there might be "considerable delay" in furnishing "the kind of thorough joint evaluation" that the president wanted.[61]

The JCS had forwarded the Harmon report to Johnson on July 28, but, despite his promise to expedite the project, he did not inform the president that the report had been completed until October 18. Even then he expressed reluctance to "burden" Truman with a copy, arguing that the WSEG analysis

[57] Department of State, *Foreign Relations of the United States: 1949*, Vol. I: *National Security Affairs, Foreign Economic Policy* (Washington, 1976), 481–82.

[58] Frank Pace, Jr., to the president, April 5, 1949, in Atomic Energy-Budget folder, NSC Atomic File, President's Secretary's File.

[59] *Public Papers of the Presidents of the United States: Harry S. Truman, January 1 to December 31, 1949* (Washington, 1964), 199–201; entry, April 8, 1949, Eben Ayers Diary, Eben Ayers Papers (Truman Library); Robert Landry to the president, April 16, 1949, General R. B. Landry folder, General File, President's Secretary's File; Landry to the president, April 19, 1949, Atomic Bomb-Strategic Bombing folder, NSC Atomic File, *ibid.*

[60] Truman to the secretary of defense, April 21, 1949, in Atomic Bomb-Strategic Bombing folder, NSC Atomic File, President's Secretary's File. Robert L. Dennison influenced Truman to send the memorandum after George W. Anderson informed Dennison of the Harmon committee's progress. Interview with Robert L. Dennison, March 23, 1977, and interview with former Harmon committee member, retired Admiral George W. Anderson, Sept. 6, 1974.

[61] Johnson to the president, April 27, 1949, Atomic Bomb-Strategic Bombing folder, NSC Atomic File, President's Secretary's File.

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[62] Johnson to the president
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[63] For Johnson's ambitions
History (Truman Library), 17,
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Naval Historical Center), 324–

[64] Memorandum for the secr
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[65] Johnson to the president, M
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of the bombers' ability to reach their targets was not yet complete and the Harmon report, based on the assumption that all the bombs would be successfully delivered, was by itself of only "limited value." He suggested that he and JCS Chairman Omar Bradley give the president an oral summary of the report's conclusions, "limited as they may be."[62]

Johnson's excuse for withholding the report was misleading. It implied that the projections developed by the Harmon committee were too optimistic and would have to be revised downward once the WSEG study was completed. In fact, the WSEG analysis could only reinforce the already pessimistic conclusions of the Harmon report.

It is not clear why Johnson chose to mislead the president as to the implications of the Harmon report. It may be that, as a long time champion of strategic air power, he accepted the reservations about the committee's conclusions contained in Vandenberg's cover letter and believed the WSEG study was a more significant analysis. The secretary may have felt personally threatened by the report; an ambitious man, who had forcefully implemented Truman's conservative budget ceilings, Johnson may have feared that the report's discouraging findings would discredit a policy with which he was closely identified. In either case, he may have hoped that if he could withhold the report long enough, growth of the atomic stockpile would make its findings obsolete and nullify its political impact.[63]

In November 1949, Truman requested to see the Harmon report one final time. Naval aide Dennison, who continued to have reservations about the direction of American strategy, drafted a memorandum to Johnson on November 17, requesting the Harmon report and the interim conclusions of the WSEG study on the bombers' ability to reach their targets.[64] Johnson met with the president on November 23 and persuaded him to wait to be briefed until the full WSEG study was completed.[65] Although a briefing on the WSEG analysis was provided in January 1950, there is no evidence that the conclusions of the Harmon report were discussed. Truman never received a copy of the report.

As a result of Johnson's suppression of the Harmon report, the president was never fully exposed to the military arguments against an atomic air offensive

[62] Johnson to the president [prepared Oct. 12, 1949], *ibid.* See also copy marked "left at White House by SecDef, Oct. 18, 1949," CCS 373 (10-23-48), section 5, Papers of the United States Joint Chiefs of Staff.

[63] For Johnson's ambitions and his performance as secretary of defense, see Dennison, Oral History (Truman Library), 17, 28, 31, 107, 110, 136, 140-42; interview with Dennison, Aug. 29, 1974; interview with George M. Elsey, Sept. 4, 1974; Eugene M. Zuckert, Oral History (Truman Library), 25-26; Marx Leva, Oral History (Truman Library), 58; Charles S. Murphy, Oral History (Truman Library), 73-74; and Richard L. Conolly, Oral History Transcript (Operational Archives, Naval Historical Center), 324-25, 404.

[64] Memorandum for the secretary of defense, Nov. 19, 1949, Atomic Bomb-Strategic Bombing folder, NSC File, President's Secretary's File; interview with Dennison, March 23, 1977.

[65] Johnson to the president, Nov. 21, 1949, with memorandum for Deputy Secretary [of Defense Stephen] Early, Nov. 18, 1949, CD 23-1-19 file, Office of the Secretary of Defense Papers, RG 330 (National Archives). Johnson's memo has the notation "SecDef showed to President—Nov. 23, 1949—President okayed presentation for after January 14," but the president's schedule shows an appointment with Johnson only on November 22. President's Schedule, President's Secretary's File.

that it contained. These arguments did emerge in hearings before the House Armed Services Committee on October 6–13, 1949, when the navy attempted to defend its role in national defense and raise fundamental strategic questions. During his climactic testimony before the committee, Chief of Naval Operations Denfeld mentioned the Harmon report while criticizing current defense planning. When pressed for details, however, Denfeld and Harmon committee member Tom Hill were forced, because of the report's highly sensitive nature, to cite national security considerations and decline to answer.[66]

Unaware of the contents of the report, Congress, the public, and the president were inclined to dismiss the navy's testimony as motivated merely by hostility to unification and civilian control of the armed forces. The "Admirals' Revolt" resulted in a purging of the navy's high command, which effectively silenced naval opposition to a defense posture based on an atomic air offensive. Although some naval officers maintained their opposition to the air force philosophy of war, after October 1949 the navy as a whole generally submitted to majority opinion on strategic nuclear questions. It required only that its prerogatives be respected and that an adequate budget be provided for it to carry out its own wartime objectives.

By October 1949 the United States was more firmly committed than ever to a defense strategy based on atomic weapons. The JCS recommendations of May 26 that the stockpile be significantly expanded (partly a response to the conclusions of the Harmon report) prompted Truman to appoint a special committee of the NSC to study how the extensive building program that would be required related to the 1951 program for national security, then under review in the NSC.[67] That committee, which consisted of Secretaries Acheson and Johnson and AEC Chairman Lilienthal, reported on October 10 "that the proposed acceleration of the atomic energy program is necessary in the interests of national security." The AEC acquiesced in the JCS view that it would "constitute a net improvement in our military posture both as a deterrent to war and as preparation for war should it prove unavoidable," and concluded that it would be "technically feasible" to undertake such a program. The state department noted that in light of the Soviet atomic explosion in August 1949 the expansion was "not untimely," and would serve as "positive evidence" of the United States' commitment to the North Atlantic Pact.[68] Seven days after receiving the NSC committee report, Truman approved the proposed expansion and so notified Lilienthal and the appropriate congressional committee heads.[69]

At the time he took this action Truman had never received a thorough briefing on atomic strategy from the JCS. On October 19 he asked Johnson and the

[66] U.S. Congress, House, Committee on Armed Services, *Hearings: The National Defense Program: Unification and Strategy* (Washington, 1950), 352–64.

[67] Truman to Sidney Souers, July 26, 1949, Department of State, *Foreign Relations: 1949*, Vol. I, 501–02.

[68] "Report to the President by the Special Committee of the National Security Council on the Proposed Acceleration of the Atomic Energy Program," Oct. 10, 1949, *ibid.*, 559–64.

[69] Truman to Joseph C. O'Mahoney, Albert Thomas, and Brien MacMahon, Oct. 17, 1949, and Truman to David E. Lilienthal, Oct. 19, 1949, Atomic Bomb and Energy folder, Confidential File (Truman Library).

JCS to provide him with specific information on what adjustments in strategic planning would be necessitated by the expanded atomic weapons program, and what operational assumptions had led to the conclusion that expansion was necessary.[70] The JCS prepared a paper in reply but, because of the highly sensitive nature of the report, requested that it be presented orally to the president. Truman had left for a three-week vacation in Key West, Florida, on November 28, but agreed to an oral briefing after his return to Washington.[71]

On January 10, 1950, General Bradley and Secretary Johnson presented to the president the JCS view of the relationship between the expanded atomic weapons production program and American strategic planning.[72] The presentation, like the Harmon report from which it may have been derived, stressed American military weakness vis-à-vis Soviet conventional forces, and pointed out that only increased atomic production could bridge "the wide gap now existing between our international military commitments and our military capabilities." "The accelerated atomic energy program," the JCS argued pessimistically, "is designed to assist in the build-up of our military posture in the future to the point where we more nearly will approach being able to accomplish on a minimum basis those tasks in which we must not fail." Although current war plans would not be revised as a result of the expansion, the JCS pointed out that accelerated production would permit research and development efforts on new atomic weapons such as guided missile warheads, penetrating warheads, and, possibly, the "super bomb."[73]

Between the time that President Truman approved the acceleration of atomic production on October 17, 1949, and early January 1950, when he was briefed on the program's strategic significance, the hydrogen bomb had emerged as a major issue. The president's announcement on September 23, 1949, that a Soviet atomic explosion had been detected caused many scientists and public officials to argue that the nation must act quickly to reassert its dominance in nuclear technology. Among those promoting development of a thermonuclear bomb on these grounds were physicists Edward Teller and Ernest O. Lawrence, AEC commissioners Lewis L. Strauss and Gordon Dean, and Senator Brien MacMahon, chairman of the Joint Congressional Committee on Atomic Energy. Although the technical feasibility of the weapon was not certain, they believed that development efforts would have a "better than 50 percent" chance of success based on current theoretical calculations.

[70] Truman to the secretary of defense, Oct. 19, 1949, *ibid.*

[71] See JCS 1823/19, Nov. 8, 1949, and Decision on JCS 1823/19, Dec. 1, 1949, CCS 471.6 (8-15-45), section 18, Papers of the United States Joint Chiefs of Staff, for JCS arguments; for setting up of later meeting, see Johnson to the president, Dec. 5, 1949, and the president's reply, Dec. 10, 1949, Atomic Energy-Secretary of Defense folder, NSC Atomic File, President's Secretary's File.

[72] According to the president's schedule, Truman met with Johnson and JCS Chairman Omar Bradley on January 5 and 10, 1950. President's Schedule, President's Secretary's File. An unlabelled, undated chronology dealing with the H-bomb decision includes the note: "1/10, met with President, Early, Bradley, off the record." This, along with circumstantial evidence provided by William H. Cunliffe, indicates that the briefing on the strategic significance of the accelerated atomic energy program was given to Truman at the January 10 meeting. Atomic Bomb and Energy Folder, 1953-9, Dean Acheson Papers (Truman Library), and interview with William H. Cunliffe, Dec. 27, 1978.

[73] JCS 1823/19, Nov. 8, 1949, CCS 471.6 (8-15-45), section 18, Papers of the United States Joint Chiefs of Staff.

Those opposing development argued that the United States must try to avoid the dangerous technological competition that could be triggered by the Soviet atomic blast. They believed that renunciation, or at least delay, of research on the thermonuclear bomb, perhaps accompanied by a major arms control initiative, might offer a last hope for world peace. They stressed the cost and technical complexities of the project, and expressed doubts as to whether it would be the best use of scarce resources, especially since larger fission weapons based on the so-called "booster" principle could be developed with considerably less difficulty. They questioned on moral and practical grounds a military strategy that would rely on the use of high-yield weapons, and recommended instead an emphasis on smaller atomic bombs designed for tactical use. Among this group were AEC Chairman Lilienthal, Commissioners Sumner Pike and Henry Smyth, and Chairman J. Robert Oppenheimer and other scientists of the General Advisory Committee (GAC) to the AEC.[74]

On November 19, in response to reports from the GAC and the AEC and at the urging of Dennison, Truman reappointed Acheson, Johnson, and Lilienthal as the NSC special committee on atomic matters. This committee, which had prepared the October report on acceleration of the atomic energy program, was charged with studying the H-bomb question in depth.[75] To support the committee, a working group directed by Sidney Souers, executive secretary of the NSC, was established, consisting of three representatives each from the state department and the AEC and four from the defense department.

The military significance of the hydrogen bomb was clearly a crucial issue in the debate. Secretary Johnson, a strong supporter of the thermonuclear weapon, pressed the NSC committee to act quickly to implement development. The JCS, however, was not active in initial debates over the "super bomb." With the exception of certain air force planners and members of the MLC, the military contributed little through the fall of 1949 to discussion of the weapon's value or possible impact.

Military planners did not play a larger role for two major reasons. First, the Soviet atomic explosion, despite its political impact, did not immediately alter the world military situation. Intelligence estimates prepared after the Soviet test projected that the Soviet Union would not acquire a large enough stockpile or the necessary delivery systems to threaten the United States before 1951 at the earliest, and more probably 1953 or even 1955. Although the JCS and the Department of Defense initiated some preparations to counter Soviet atomic capability in October and November 1949, no immediate revision of offensive war plans was undertaken. The air force renewed its plea for a seventy-group air force program to meet the crisis, and initial studies of American vulnerability to atomic attack and requirements for an adequate air defense

[74] For reports of the General Advisory Committee and the Atomic Energy Commission, and views of Brien MacMahon and Lewis L. Strauss, see Department of State, *Foreign Relations: 1949*, Vol. I, 569–73, 576–85, 588–95, and 596–99. See also York, *The Advisors*, 152–59; Hewlett and Duncan, *History of Atomic Energy Commission*, 362–95, especially 393.

[75] Dennison to the president, Nov. 18, 1949, Atomic Bomb Tests-Miscellaneous folder, NSC Atomic File, President's Secretary's File; Truman to Souers, Nov. 19, 1949, Department of State, *Foreign Relations: 1949*, Vol. I, 587–88.

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were completed. The first broad strategic assessment of the Soviet Union's atomic capability, however, was the joint state-defense study of April 1950 that became NSC-68.[76]

Second, JCS targeting studies from January 1948 to October 1949 had indicated that the bulk of the United States atomic stockpile should consist of weapons comparable to the one dropped on Nagasaki, with a yield equivalent to twenty kilotons of TNT. Although a few weapons, on the order of ten times as powerful, should be available for use on larger cities, the JCS concluded that "the majority of targets do not require a more powerful bomb because of area limitations." Within such a context, the hydrogen bomb, with a yield one-hundred to one-thousand times greater than the Nagasaki weapon, appeared to the JCS to have a strictly limited mission.[77]

Since mid-October members of the MLC, particularly Major General Kenneth D. Nichols, head of the Armed Forces Special Weapons Project, had been under pressure from Lawrence to endorse development of the hydrogen bomb. As the only military planning group with direct access to the AEC's most secret atomic energy information, the MLC largely directed JCS policy regarding the hydrogen bomb through early January 1950. It also heavily influenced the deliberations of the NSC working group on the thermonuclear weapon, which included three MLC members among the four defense representatives: Robert LeBaron, the new MLC chairman, Nichols, and Rear Admiral Hill, who had also served on the Harmon committee and the JCS committee on atomic stockpile requirements.[78]

The MLC position on the H-bomb strongly reflected the arguments of Strauss, Lawrence, and other civilian proponents of the weapon. Emphasis was placed on the problem of technological competition and the psychological importance of the H-bomb, rather than on its military mission. Development of the weapon, the MLC argued, was imperative because "possession of a thermonuclear weapon by the USSR without such possession by the United States would be intolerable" and renunciation of the weapon by the United States would not ensure that the Soviet Union would not seek to acquire it.

[76] For military studies initiated in reaction to the Soviet atom bomb, see JCS 1823/18, Recommended Actions in Matters of Atomic Warfare, Oct. 29, 1949, CCS 471.6 (8-15-45), section 16, Papers of the United States Joint Chiefs of Staff; W. Stuart Symington to Johnson, Nov. 8, 1949, Atomic Energy-Russia folder, NSC Atomic File, President's Secretary's File; JCS 2084, Nov. 16, 1949, CCS 373.24 U.S. (9-8-49), section 1, Papers of the United States Joint Chiefs of Staff; Johnson to the president, Dec. 8, 1949, CJCS 323.3, Joint Command Post, Chairman JCS Papers, *ibid.*; and F. H. Smith, Jr., to director, Plans and Operations, Jan. 7, 1950, with enclosure, DCS/O, assistant for programming, Executive Office, Administrative Office Decimal Correspondence 381, Papers of the Chief of Staff of the Air Force. For the first full study of the "Implications of Soviet Possession of Atomic Weapons," see JCS 2081/1, Feb. 13, 1950, CCS 471.6 U.S.S.R. (11-8-49), section 1, Papers of the United States Joint Chiefs of Staff. This paper conservatively discusses Soviet atomic capability and American air defense vulnerability and capability. See also NSC-68, "Note by the Executive Secretary to the National Security Council on United States Objectives and Programs for National Security," April 14, 1950, Department of State, *Foreign Relations of the United States: 1950*, Vol. I: *National Security Affairs; Foreign Economic Policy* (Washington, 1977), 234-92.

[77] JCS 1823/1, Jan. 5, 1948, CCS 471.6 (8-15-45), section 8, Papers of the United States Joint Chiefs of Staff; JCS 1823/17, Oct. 28, 1949, CCS 471.6 (8-15-45), section 17, *ibid.*

[78] Hewlett and Duncan, *History of Atomic Energy Commission*, II, 378, 394-95. For a list of the working group, see Department of State, *Foreign Relations: 1949*, Vol. I, 587, n. 2.

Military uses of the "super bomb" were considered a question of secondary importance. Once it was acquired, the MLC concluded, the bomb would be "an offensive weapon of the greatest known power possibilities" and could be substituted for a "greater number" of fission bombs, thereby making more efficient use of scarce resources and "adding flexibility to our planning and to our operations."[79]

A statement of this position was endorsed by the JCS and forwarded to Johnson on November 23 as a basis for defense policy regarding the hydrogen bomb. A longer, but basically identical, statement was presented to the NSC working group in December. It included references to use of the H-bomb on tactical targets, possibly reflecting WSEG studies, then underway, of the tactical uses of atomic bombs and the feasibility of the H-bomb.[80] The MLC position met with serious criticism in the working group. The AEC representatives argued that the military mission of the H-bomb had not been adequately defined, and pointed out that scarce resources should not be applied to a project of uncertain military value. Acheson and Lilienthal urged that a broad study of the role of atomic weapons in United States security and the prospects for international control be undertaken before a commitment was made to developing the hydrogen bomb. Secretary Johnson and defense representatives in the working group firmly resisted this suggestion, arguing that the issue before the committee was purely a "technical matter with no necessary relevance to the broader policy questions." To the military the underlying question of whether the United States was dependent on atomic weapons had long been irrevocably decided.[81]

On January 13, 1950, the JCS forwarded to Johnson a Joint Strategic Survey Committee paper written in response to a GAC report of December 3 that reaffirmed the scientists' technical, political, and moral objections to the hydrogen bomb. The zealous defense secretary sent the paper on to President Truman a few days later in an attempt to circumvent the machinery of the NSC special committee and speed up the decision to develop the weapon.[82] In its rebuttal of the GAC position, the JCS expressed the view that moral objections to the super bomb were specious, because "it is folly to argue whether one weapon is more immoral than another." The JCS pointed out that renunciation on moral grounds might be seen as the beginning of a unilateral renunciation by the United States of all atomic weapons, resulting eventually in a dangerous realignment of world powers. Echoing the MLC's position, the JCS concluded that since unilateral possession of the thermonuclear weapon

[79] JCS to the secretary of defense, Nov. 23, 1949, Department of State, *Foreign Relations: 1949*, Vol. I, 595–96.

[80] *Ibid.*; "Memorandum Circulated by the Defense Members of the Working Group of the Special Committee of the National Security Council" (ca. Dec. 16, 1949), *ibid.*, 604–19. For JCS acceptance of the Military Liaison Committee position, see E. F. Cress to director, Joint Staff, Nov. 17, 1949, CCS 471.6 (12–14–49), section 1, Papers of the United States Joint Chiefs of Staff. For Weapon Systems Evaluation Group studies of the tactical use of atomic weapons and the feasibility of the H-bomb, see Weapons Systems Evaluation Group, Status Report, Nov. 1, 1949, CCS 334 (2–4–48), section 2, *ibid.*; and Philip M. Morse, *In at the Beginnings: A Physicist's Life* (Cambridge, 1977), 250–51.

[81] Hewlett and Duncan, *History of Atomic Energy Commission*, II, 395–99.

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by the Soviet Union would be "intolerable," the United States had no choice but to proceed with research.

The JCS emphasized, however, that there was no pressing need for a "crash" program to build the hydrogen bomb, and that production "in any quantity" would have to be deferred until after the weapon's technical and delivery feasibility had been determined. This alone, it estimated, would cost between $100 and $200 million. If it had been necessary to cut back on other aspects of the defense program in order to undertake the thermonuclear project, the JCS probably would have been reluctant to recommend it. As the October decision to expand the nuclear production program meant that the necessary fissionable material for research on the weapon would be available, the JCS saw no reason why development should not proceed. It perceived the "super bomb" as a natural extension of existing strategy. The bomb might have a decisive effect if "properly used" in strategic bombing and probably would have "high tactical value in special situations . . . against such targets as . . . massed enemy forces might provide."[83]

The JCS memorandum found a sympathetic reader in Truman. On January 19, 1950, he informed Souers that the memo "made a lot of sense and that he was inclined to think that was what we should do." That same week, he indicated at a White House staff meeting that he had reached a decision regarding the hydrogen bomb.[84] The strategic justification offered by the JCS was attractive for two reasons. The JCS did not treat the "super bomb" as a revolution in warfare or an urgent problem. Rather it presented the bomb as a logical extension of existing weapons programs that neither offered great advantages nor posed new dangers. Far more important, the JCS offered this analysis in the context of its recent presentation to the president on American military weakness vis-à-vis Soviet conventional forces and the desperate need to upgrade the United States' atomic capability. Within such a strategic context, the need to develop the most powerful weapons possible, whether or not their military use was immediately apparent, seemed unavoidable.

On January 23, Lieutenant General John E. Hull, director of the WSEG, briefed the president, the vice-president, the JCS, the three service secretaries, and the assembled cabinet on the WSEG study of the "effectiveness of strategic air operations." This study concluded that between 70 and 85 percent of the bombers would reach their targets, depending on the weather, choice of approach routes, and Soviet defenses. It pointed out, however, that only 50 to 70 percent would return home following their sorties and that there might be severe basing and logistic difficulties involved in supporting the offensive. In addition, because of the current levels of accuracy of air force bombardiers, only between one-half and two-thirds of industrial installations in the target areas would be damaged beyond repair, depending on the yield of the bombs used. Larger bombs, like the hydrogen bomb, would presumably have a greater effect, although the WSEG study made no specific mention of the ther-

[83] Omar Bradley to the secretary of defense, Jan. 13, 1950, Omar Bradley folder, General File, President's Secretary's File.

[84] Memorandum of telephone conversation by the secretary of state, Jan. 19, 1950, Acheson Papers; entry, Jan. 21, 1950, Eben Ayers Diary, Ayers Papers.

monuclear weapon. Truman was noticeably surprised and disturbed by the report's pessimistic tone.[85]

Eight days after the WSEG presentation, the NSC special committee brought in its unanimous report recommending that development of the hydrogen bomb be approved. The president listened to the summary report presented by Acheson, Johnson, and Lilienthal. Cutting off Lilienthal's plea for a new peace initiative, and without reading the lengthy report the committee had prepared, he announced that he had decided to go ahead with the development program. The entire process took only seven minutes.[86]

Within a month of Truman's decision, military attitudes toward the development of the new weapon underwent a significant shift. The JCS had long maintained that the Soviet Union could not be allowed to have sole possession of the hydrogen bomb. Through January 1950, however, despite the warnings of Strauss and MacMahon, this contingency had seemed only a remote possibility to most military planners. Then, on February 16, 1950, Brigadier General Herbert B. Loper, an army member of the MLC, sent a memorandum to MLC chairman LeBaron, in which he developed the hypothetical case that the Soviet Union had been embarked on a determined program to acquire an atomic weapon since 1943. If this were true, Loper maintained, it was conceivable that the Soviet Union had already attained a weapons production capacity equal to that of the United States, and might even have a thermonuclear weapon in production. While Loper cautioned that such speculations were of a "fantastic order," he recommended that they not be disregarded. Nichols of the MLC concurred in Loper's analysis.[87]

The Loper memorandum verbalized for the first time the unspoken anxiety that had been growing in military circles since the Soviet atomic blast, and that had been further aggravated by recent reports on Soviet atomic espionage. Although it did not invent new concepts, it effectively mobilized military thinking around a new perception of atomic strategy.* On February 20, 1950, the memorandum was endorsed by LeBaron, with the notation that such hypothetical assumptions seemed credible in light of Klaus Fuchs's espionage and in light of the fact that Central Intelligence Agency figures on the Soviet atomic program were necessarily based on incomplete information and therefore were likely to represent only the minimum Soviet capability. As a result, he concluded, "we ought at least look at the other end of the bracket."[88] The next day the memorandum was referred to the JCS.

[85] For Weapons System Evaluation Group report conclusions, see JCS 1952/11, Feb. 10, 1950, Weapons System Evaluation Group Report 1, CCS 373 (10-23-48), section 6, Bulky Package, Papers of the United States Joint Chiefs of Staff. The presentation and Truman's reactions to it are described by Philip M. Morse. Morse, *In at the Beginnings*, 258–59. For the audience, see President's Schedule, President's Secretary's File.

[86] Lilienthal, *Journals*, II, 632–33; see also "Report by the Special Committee of the National Security Council to the President," Jan. 31, 1950, Department of State, *Foreign Relations: 1950*, Vol. I, 513–23.

[87] H. B. Loper to Robert LeBaron, Feb. 16, 1950, Atomic Energy-Russia folder, NSC Atomic File, President's Secretary's File.

[88] LeBaron to the secretary of defense, Feb. 20, 1950, and Draft Memorandum for the JCS "2/21/50," *ibid.*

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All available sources indicate that, up until this time, the JCS had never considered the possibility that the Soviet Union might have a hydrogen bomb in production. Shortly before receiving the Loper memorandum, it had noted for the record a Joint Intelligence Committee report on Soviet capabilities that made no mention of such a possibility.[89] On February 24, however, after reviewing Loper's speculations, the JCS "most urgently" recommended "immediate implementation of all out development of hydrogen bombs." Johnson, eager to expedite the thermonuclear development program, had already brought the Loper memorandum to the attention of President Truman. He endorsed the JCS recommendation, noting that "it is incumbent on the United States to proceed forthwith on an all out program of hydrogen bomb development if we are not to be placed in a potentially disastrous position with respect to the comparative potentialities of our most probable enemies and ourselves."[90] The NSC special committee, which brought in its report on the recommendation on March 9, pointed out that development was already proceeding as rapidly as possible but asked the president to approve the concept that "the thermonuclear weapon program is regarded as a matter of the highest urgency," and to authorize support efforts necessary to expedite eventual production. Truman approved the NSC recommendation on March 10, without comment.[91]

From Truman's perspective, this action did not involve a major shift in policy because concerted efforts to develop the H-bomb were already underway. From the military's point of view, the JCS recommendation that had led to the March 10 decision was a critical watershed, for it emerged out of a fundamentally new set of strategic considerations and introduced a new era in American military thinking. Concern over how to counter Soviet conventional capability had been overshadowed by concern that the Soviet Union might outstrip the United States in weapons technology. With the emergence of that concern, whether justified or not, the military had accepted the dangerous upward spiral of the strategic arms race."

The hydrogen bomb decision, particularly Truman's decision on January 31, was motivated largely by political considerations that lie beyond the scope of this paper. The role of the military in this process, however, cannot be ignored. The best-known advocates and opponents of the thermonuclear weapon—Lawrence, Teller, Strauss, Oppenheimer, and others—had communicated their views to the president through letters and reports in November 1949. After that time, only members of the NSC special committee, particularly Acheson and Johnson and on one occasion Senator MacMahon, had an oppor-

[89] Decision on JCS 2081/, Feb. 21, 1950, CCS 471.6 U.S.S.R. (11-8-49), section 1, Papers of the United States Joint Chiefs of Staff.

[90] Johnson to Truman, Feb. 24, 1950, Atomic Weapons-Thermonuclear folder, NSC Atomic File, President's Secretary's File. See also JCS 1823/24, April 7, 1950, CCS 471.6 (8-15-45), section 18A, Papers of the United States Joint Chiefs of Staff.

[91] Report to the President by the Special Committee of the National Security Council on Development of Thermonuclear Weapons, March 9, 1950, James S. Lay to the president, March 9, 1950, with Truman's approval, Atomic Weapons-Thermonuclear folder, NSC Atomic File, President's Secretary's File. See also Truman, *Memoirs*, II, 310-11.

tunity to discuss the issue with Truman before he announced his decision.[92] The JCS, in contrast, presented its views on atomic strategy to the president three times during the final three weeks of January when Truman was under enormous pressure from Congress and the press to make a public statement regarding the hydrogen bomb.[93] Each time, it gave an orderly and dispassionate presentation backed up with evidence and analysis. The JCS position on the thermonuclear weapon appeared to Truman to be a reasoned and responsible middle course. In the final analysis it can be said that the JCS played a significant role in the policy-making process by offering Truman a historical context and a strategic justification for what was essentially a political decision.

By the time he announced his position on January 31, Truman had apparently convinced himself that he was merely confirming what had already been decided. On February 2, he noted in a White House staff meeting that the critical choice had been made in the fall of 1949, when he approved acceleration of atomic production and that by January "there actually was no decision to make on the H-bomb."[94] Since Truman had approved the atomic production increase without a full understanding of its strategic context, his comment was probably a rationalization derived in part from the JCS January 10 presentation. The decision he reached in mid-January and enunciated on January 31 seems to have been a real and conscious political choice, which held considerable historical importance because it publicly confirmed the United States' commitment to a strategic arms race with the Soviet Union.

As far as military planners were concerned, however, neither the Soviet atomic test that had sparked public and official debate over development of thermonuclear weapons nor the decision of January 31 was a critical turning point. American military planners had become committed to a strategy based on atomic weapons by 1948 in response to Truman's rigid 1950 defense budget ceiling, which effectively put conventional alternatives out of reach. The realization that the planned atomic air offensive could not stop a Soviet invasion of Western Europe, crystallized in the Harmon report, strengthened this commitment and led the JCS to request a major expansion of American atomic weapons production in spring 1949. The goal of having sufficient nuclear weapons to offset Soviet conventional capability had thus launched the United States on a one-sided strategic arms race before the Soviet atomic test of August 1949. Until February 1950, the JCS continued to focus on the threat

[92] According to the president's appointments schedule, MacMahon saw the president for forty minutes on January 5. He also introduced Truman to his newly appointed senate colleague from Connecticut, William Benton, on January 12, but certainly did not discuss atomic energy issues at that time. President's Schedule, President's Secretary's File. David Lilienthal saw the president on December 21 and January 27, but discussed the H-bomb with Truman on only the latter occasion. Lilienthal, *Journals*, II, 611–12, 621–22. Acheson and Johnson each had regular weekly appointments with the president, Acheson on Monday or Thursday, and Johnson on Tuesday.

[93] For the pressures on Truman, see Memorandum of Telephone Conversation by the Secretary of State, Jan. 19, 1950, Acheson Papers; Brien MacMahon to the president, Jan. 18, 1950, and the president's reply, Jan. 19, 1950, Atomic Bomb folder, General File, President's Secretary's File; Joseph Alsop's and Stewart Alsop's columns in *Washington Post*, Jan. 4, 18, 27, 1950; "Superbomb," editorial in *Washington Post*, Jan. 4, 1950; and James Reston, "Hydrogen Bomb Poses Hard Questions of Policy," *New York Times*, Jan. 22, 1950.

[94] Entry, Feb. 4, 1950, Eben Ayers Diary, Ayers Papers.

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[95] Significantly, the dev
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posed by Soviet conventional forces, arguing that the Soviet Union could not yet launch a decisive nuclear attack against the United States.

Although the JCS endorsed the MLC argument that the Soviet Union should not be allowed to surpass the United States in weapons technology, this did not at first seem a real possibility. The JCS memorandum of January 13 to Secretary Johnson discussed both technological competition and the problem of strategic sufficiency but ended with the recommendation that there was no urgent need to demonstrate American superiority by developing the hydrogen bomb. The idea that the Soviet Union might be a serious competitor in atomic technology was not generally accepted by the JCS until it surfaced in the Loper memorandum in February. It was this analysis, not the Soviet atomic explosion, that introduced technological competition, along with the continuing search for strategic sufficiency to counter Soviet military capabilities, as a major factor shaping American defense planning.

It is apparent in hindsight that many of the military's basic assumptions about the situation the United States was confronting in the immediate postwar period were inaccurate. Hampered by poor intelligence and lack of experience in dealing with the Soviet Union, and restricted by prudence to working from worst-case hypotheses, military planners tended to overemphasize the threat posed by Soviet conventional forces and accepted in the Loper memorandum a clearly overstated estimate of Soviet atomic capability. The choices they made in responding to perceived challenges can also be seen as flawed. In retrospect, it is clear that there was merit in the arguments of critics of American atomic strategy and policy during this period. Many of the objections voiced by naval officers to strategic bombing were confirmed in the Harmon report and appear valid today. As opponents of the H-bomb pointed out, moreover, the JCS could not immediately identify a military role for the new weapon or demonstrate that it was a practical concept in view of limited resources and technical difficulties.[95]

Though the process of strategic planning may be faulted, its impact on national policy deserves serious attention. Between 1945 and 1949, JCS speculations about the probable nature of the threat confronting the United States tended to take on a life of their own. After four years of planning, the military's perception of Soviet strength and American weakness, and the need to rely on atomic weapons in ever greater numbers to restore the balance, was so deeply entrenched that it could not be undone. The hydrogen bomb decision and, later, the movement to rearm that was formally endorsed by NSC-68 in April 1950 may have been primarily political responses to such events as the Soviet atomic test and the fall of China. But these policy choices were undergirded by a structure of military planning and associated concepts and analysis that had remarkable strength and persistence. The existence of such a structure and its profound relationship to the creation of American national security policy cannot be ignored.

[95] Significantly, the development of the H-bomb as a stockpile weapon took quite some time. Although thermonuclear principles were first tested on May 8, 1951, and a true thermonuclear explosion was achieved on October 31, 1952, an air-deliverable hydrogen bomb was apparently not tested until March 1954 and not actually dropped from an aircraft until May 1956. See York, *The Advisors*, 77–85; and Samuel Glasstone, ed., *The Effects of Nuclear Weapons* (Washington, 1964), 673.